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A total of 14 inches of rain fell at the Guthrie soil erosion farm from May 31 to July 6, inclusive. Most of the precipitation occurred as intense rains of brief duration resulting in a high percentage of run-off and severe erosion. Run-off and erosion from these storms were greater than for any corresponding period since the opening of the station.

The installation of a Parshall measuring flume of 3-inch throat width with a water level recorder having a 0.75 foot range has been completed at the Temple soil erosion station by H. O. Hill. This miniature unit will measure run-off from a tile drainage system installed in a plot devoted to level terraces which are designed to retain all precipitation falling upon their respective drainage areas.

Very high rainfall intensities occurred at the Fort Hays station on June 8. During the first 28 minutes 0.30 inch of rain fell, followed by 2 inches during the next 15 minutes. A total of 3.50 inches fell in 3 hours and 20 minutes. An intensity of 8 inches per hour for a 15 minute period is of rare occurrence in western Kansas. Erosion and runoff resulting from this downpour were unusually large.

The second annual farm field day at the Bethany, Mo. Soil Erosion Experiment Station was attended by 700 farmers, business men, and agricultural workers from the States of Missouri, Iowa, Nebraska and Kansas. Papers concerning engineering results from the Federal erosion projects were presented by L.A. Jones, C. E. Ramser, and A. T. Holman.

B. S. Clayton has completed his work for the Bureau of the Census as Expert in Drainage Enterprises and has taken over the ground water investigations at Belle Glade, Florida recently started by F. E. Staebner.

A topographic survey of the new soil erosion station recently established near Zanesville, Ohio has been started by Paul L. Hopkins.

A report upon the hydraulic calibration of the large Uhland Divisor Flume and a similar report on the small Uhland Divisor Flume,

prepared by D. L. Yarnell have been submitted to the Washington office. These flumes were designed by R. E. Uhland of the Bureau of Chemistry and Soils for use on the cooperative soil erosion experiment stations.

Paul A. Ewing, who has been with the Bureau of the Census for the past 2 1/2 years as Expert in Irrigation Enterprises has resumed his work with the Division of Irrigation at Berkeley, Calif.

The official headquarters of A. A. Young have been moved from Santa Ana, Calif. to Pomona, Calif.

Work of the Irrigation Division in Southern California under the supervision of Harry F. Blaney includes the following studies: Consumptive use of water in the Santa Ana River area, the Mojave River area, Coldwater Canyon and Devil Canyon; penetration and storage of rainfall in the Santa Ana River area and the Ventura area; irrigation of subtropical fruits at San Dimas and in the San Fernando Valley; correlation of evaporation data in the South Coastal basin obtained by various agencies.

At the soil moisture laboratory at Pomona, Calif. under the supervision of Colin A. Taylor, moisture equivalent and wilting point determinations have been made for Leslie Bowen in Nebraska, R. A. Work in Oregon, and J. H. McCormick at Bard, Calif.

A modified form of the Parshall measuring flume is being tested by Mr. Parshall at the Bellevue, Colo. laboratory, to determine the effects caused by removing the diverging section, the diverging and throat section, and modifications of the downstream flume section. These tests seem to indicate that the law of submergence developed for the standard flume applies to these modified settings. It is believed that the sloping floor of the throat is the stabilizing element.

In a trip through western Nebraska, Carl Rohwer found that pumping for irrigation is confined mainly to the area along the Platte between Lexington and Grand Island. In this area pumping from wells to supplement the rainfall is an established practice and more pumps are being installed each year.

M. R. Lewis spent the greater part of June in making boundary and topographic surveys and assisting in making soil surveys of the Harney Branch Experiment Station at Burns and the Eastern Oregon Station at Union. The land of the former station is quite flat the extremes of elevation being 4,134.2 and 4140.0. Because of this and the high cost of pumped water, no surface waste is allowed. All irrigation, except of potatoes, is by the level basin method. This method does not give satisfactorily uniform application and causes serious baking and cracking, but no better method of applying water is known.

Determinations of the actual per cent of clay in rip-rap samples from the dam at Fort Worth, Texas, will be made by the use of a special sieve prepared by F. J. Fricke, and by chemical analysis. For the

chemical analysis, samples were subjected to a 1 to 1 concentration of hydrochloric acid, thereby dissolving all calcium carbonate (rock) and leaving the clay.

A detailed progress report on Evaporation and Transpiration Losses along the Mojave River near Victorville, Calif. by Harry G. Nickle, Harry F. Blaney and Colin Taylor has recently been submitted to the Berkeley office.

Tests of the flow of water in gunite-lined sections of canals in the lower Rio Grande Valley, Texas, carrying silty water have recently been made by Fred C. Scobey. These tests have added some valuable data to that already obtained from such surfaces.

R. B. Gray presented a paper at the A.S.A.E. Convention at Columbus, Ohio, entitled "Artificial Drying of Agricultural Products", prepared jointly by himself and Messrs. Hurst and Gordon. Under Mr. Gray's supervision as chairman of the Committee on ^Fuels and Lubricants, a display of equipment was arranged, and tests for indicating the characteristics of different fuels and lubricants were staged.

Tests on grasshopper poison distributors near Winner, S.Dak. were completed by S. W. McBirney. Both types of equipment tested were highly effective in their performance. Mr. McBirney then was transferred to Davis, Calif., for work on the sugar beet machinery investigations.

R. M. Morrill recently conferred with Frank Irons at South Norwalk, Conn., regarding the corn borer project at that point. Messrs. Morrill and Irons attended a conference and made a tour of inspection with State entomologist and Plant Quarantine officials in connection with Japanese beetle control.

Preliminary trials on the rotary experimental drier at Jeanerette, La. made by E. D. Gordon show that while fuel consumption per ton of dried product is about the same as the fuel requirements of the apron drier and other commercial driers, the energy requirement per 1,000 pounds of water evaporated averages 15.5 K.W. hours. This is about 30 per cent lower than the energy requirement for the apron drier. Whole hay was dried on the apron conveyor drier, while the material was chopped into 3/4-inch lengths for the rotary unit.

Cultivation of corn in experiment fields at Ames, Iowa, under the supervision of Claude K. Shedd was completed July 9. Labor requirements were tested for three different methods of growing corn; check planting, drill planting, and listing. The total labor prior to harvest for these methods was 4.0, 3.6 and 2.7 man-hours per acre, respectively. Check planting is the usual farm practice in Central Iowa. The usual labor requirement is from 6 to 12 man-hours per acre. Excessive rains during the first three weeks of June caused some difficulty in controlling weeds. A shovel cultivator equipped with rotary weeder was the most effective device for controlling weeds under these conditions.

The construction of apparatus for testing the use of steam for sterilizing greenhouse soils has been completed. This experiment is being carried out by A. H. Senner at the Naval Engineering Experiment Station, Annapolis, Md., to determine the effects and relative advantages of low pressure, high pressure, and superheated steam for soil sterilization.

Construction of rammed earth walls for an addition to the fertilizer machinery building at Arlington Experiment Station, Rosslyn, Virginia, has been completed under Wallace Ashby's direction. The walls are built of silty clay subsoil from the excavation for one of the other buildings on the farm. Gravel was mixed with this material to build one section of the wall, but this mixture did not prove as satisfactory as the un-mixed soil, due perhaps to uneven mixing. Sections of the wall were built 10 inches, 12 inches and 16 inches in thickness to determine the relative advantages of each thickness. When the walls are thoroughly dried out portions of the exterior will be covered with different finishes to determine relative suitability. Finishes to be tested will include lime stucco, cement stucco, tar sanded and whitewashed or painted, and various paints commonly used on masonry.

Various manuscript reports upon the cotton ginning investigations having been completed in Washington, D.C., Charles A. Bennett is returning immediately to the Cotton Ginning Laboratory at Stoneville, Mississippi.